

REMARKS

Entry of the present amendment and favorable reconsideration and allowance of this application are requested.

1. Discussion of Claim Amendments

By way of the amendment instructions above, the pending claims have been clarified to emphasize that processes and apparatus are provided for the production of melamine using a salt furnace that is operated with a fuel resulting in flue gases. Moreover, the pending claims now clarify a significant feature of the present invention, namely that the flue gas is subjected to at least two heat exchange steps with different process streams of the melamine production process *before* being heat-exchanged with fresh air so as to provide heated fresh air to the salt furnace. Claim 3 has therefore been canceled as redundant.

Claims 12-15 are new and are directed to the provision of a fourth heat exchange step/unit as described in the original specification at page 7, lines 3-18 and original claim 6 (which constitutes its own "disclosure").

Accordingly, upon entry of this amendment claims 1 and 4-15 will remain pending herein for which favorable reconsideration and allowance are solicited.

A title more commensurate with the subject matter defined by the pending claims herein has also been presented.

2. Response to 35 USC §103(a) Rejections

The only issues remaining to be resolved in this application are the Examiner's rejections advanced against the pending claims under 35 USC §103(a) based

principally on Stark (USP 4,784,069) in view of Hardeveld (USP 4,408,046).¹ In this regard, claim 7 was rejected under such statutory provision in view of the combination of Stark and Hardeveld, while Wood et al (USP 6,599,119) was combined with Stark and Hardeveld to rejection prior claims 1, 3-4, 6, 8-9 and 10-11. Finally claim 5 attracted a separate rejection under 35 USC §103(a) based on Stark, in view of Hardeveld and Wood et al, and further in view of Westfall (USP 2,943,088). Applicants respectfully suggest that the rejections are inappropriate against the presently pending claims herein.

The Examiner will recall that one significant aspect of the present invention is that energy efficiency of salt furnaces operated as part of a melamine production process is improved without creating a NOx problem. In this regard, it will be understood according to the present invention, that an important requirement is to conduct a third heat exchange step with combustion air for the salt furnace ***only after*** two ***previous*** heat exchange steps are conducted ***with process streams in the melamine process***. Such a processing technique is neither taught nor suggested by any of the publications applied as references to support the Examiner's rejections, especially Stark and Hardeveld.

Applicants note that Hardeveld does in fact disclose a process for making melamine wherein a salt furnace is heated with the flue gases of a furnace and that Stark generally deals with heat exchange steps in the exhaust gas streams. However, it is really at this juncture that any perceived similarities between the present invention and Hardeveld and Stark cease. Specifically, Stark neither refers to a melamine process nor deals with the unique technical problems solved by the present invention, i.e. to have an improved energy efficiency without a non-tolerable increase in NOx emission.

¹ A typographical error with regard to the patentee's surname USP 4,408,046 is present in the Official Action dated December 4, 2008, i.e., "Hardeveld" viz. "Hardeveld".

As is evident from the experimental data in the present application this object of the present invention has been solved by the specific order of heat exchange steps as presently defined by the amended set of claims.

The Stark reference does not give any hint to a person skilled in the art that a process known from Hardeveld can be improved with respect to heat efficiency without compromising low NOx emission. Moreover, the Stark reference even teaches away from the present invention since, according to Stark compared to the prior art discussed in Stark, the exhaust gas of a gas turbine is used ***without any intermediate heat exchange*** to heat the combustion air for the furnace. This disclosure in Stark clearly teaches away from a significant feature of the presently claimed invention – that is, that the flue gases of the salt furnace is heat-exchanged with furnace combustion air ***only after two prior heat exchange steps are performed with other process streams of the melamine production process.***

Thus the combination of Hardeveld with Stark cannot render the claimed subject matter “obvious” under 35 USC §103(a).

The secondary references to Wood et al and Westfall do not cure the deficiencies of Stark and Hardeveld as discussed above. Specifically, Wood et al. explicitly teaches to use the flue gases ***directly*** to preheat the combustion air. Moreover, while Westfall in fact discloses a processing plant wherein urea is heated in a kiln, there is no suggestion therein whereby such a urea stream can be used as the heat exchange fluid in a *second* heat exchange step with furnace flue gases *prior to* heating exchanging such flue gases with fresh combustion air for a salt furnace in a melamine production process.

Accordingly, withdrawal of all rejections advanced under 35 USC §103(a) is in order.

BAKKER et al
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3. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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